LIST OF CONTENTS

NUMBER 1 JULY

● *EDITORS' PAGES*

References 1

International System of Units 5

● *PAPERS*

The Effects of Topical Povidone I Solution on Serum Iodide Levels and Thyroid Uptake of ^{131}I in Dogs
K. D. Moody, K. L. Miller, W. J. White, W. J. Hurst and C. M. Lang 9

Calibration Factors for Ge Detectors Used for Field Spectrometry
I. K. Helfer and K. M. Miller 15

Uptake of ^{226}Ra by Established Vegetation and Black Cutworm Larvae, *Agrotis ipsilon* (Class Insecta: Order Lepidoptera), on U Mill Tailings at Elliot Lake, Canada
F. V. Clulow, N. K. Davé, T. P. Lim and N. R. Cloutier 31

Organ Doses from Radionuclides on the Ground. Part II. Non-trivial Time Dependences
P. Jacob, H. G. Paretzke and H. Rosenbaum 37

The Interrelationships among Plant Biomass, Plant Surface Area and the Interception of Particulate Deposition by Grasses
J. E. Pinder III, T. G. Ciravolo and J. W. Bowling 51

Reconstruction of a Human Skull Calibration Phantom Using Bone Sections from an ^{241}Am Exposure Case
D. P. Hickman and N. Cohen 59

● *NOTES*

Standard Measurement Techniques and Strategies for Indoor ^{222}Rn Measurements
M. Ronca-Battista, P. Magno and P. C. Nyberg 67

Survey of ^{222}Rn in North Carolina Homes
J. E. Watson, Jr., W. C. Adams, Y. Xie, S. W. Fong and H. J. Newman 71

Committed Dose Equivalent for ^{3}H Intakes from Urinary Excretion Data
R. G. Purohit, V. K. Jain and T. Subbaratnam 77

Breast Radiation Dose in Film/Screen Mammography
K. L. Prado, J. T. Rakowski, F. Barragan and K. N. Vanek 81

A Simplified Conversion of *S* Values to Individual Patients
W. Schreiner 85

Attenuation Characteristics of Lipowitz's Metal for Fast Neutrons
P. R. Almond and J. Horton, Jr. 91

● *CORRESPONDENCE*

Accuracy of Dose Calibrator Linearity Test
R. Y. L. Chu 95

Comments on 'Decay Rate of Radiation from Nuclear Weapons Fallout'
G. M. Dunning 96

● *BOOK REVIEWS*

***Radiation Oncology Physics* by J. G. Keriakes, H. R. Elson and C. G. Born, eds.**
Reviewed by W. R. Hendee 97

***Nuclear Medical Physics* by L. E. Williams**
Reviewed by W. R. Hendee 97

● *ERRATUM*

Correction for: Mobile Pu in Reservoir Sediments of Nagasaki, Japan. Health Phys. 54:107–111; 1988. 99

● *NEWS AND NOTICES* 101

● *HEALTH PHYSICS SOCIETY PROSPECTUS* 109

● *HEALTH PHYSICS SOCIETY AFFILIATE MEMBERS* 111

● *INSTRUCTIONS TO CONTRIBUTORS* 113

● *NEW PATENTS* I

● *SOFTWARE SURVEY SECTION* III

● *ADVERTISERS' INDEX* Appears in the back of this issue

NUMBER 2 AUGUST

Special Issue:
25TH HANFORD LIFE SCIENCES SYMPOSIUM
RADIATION PROTECTION—A LOOK TO THE FUTURE

W. J Bair, *General Chairman*

● *PREFACE*

Radiation Protection—A Look to the Future 115

● *EDITOR'S COMMENT*

Proceedings of the 25th Hanford Life Sciences Symposium 117

● *PHOTO PAGES* 119

● *H. M. PARKER LECTURE*

Introduction
W. J Bair 123

Radiation Protection Standards: A Historical Perspective
J. W. Healy 125

● *SOME GENERAL PERCEPTIONS OF THE FUTURE—J. N. Stannard, Chairman*

Will Radiation Control Be by Reason of Regulation?
L. S. Taylor 133

The Impact of the Chernobyl Accident on Radiation Protection
H. G. Paretzke 139

Radiation Protection—A Look to the Future: ICRP Perceptions
B. Lindell 145

Trends in Radiation Protection—A View from the National Council on Radiation Protection and Measurements (NCRP)
W. K. Sinclair 149

Radiation Protection Guidelines for Space Missions
R. J. M. Fry and D. S. Nachtwey 159

Uses of Ionizing Radiation and Medical-care-related Problems
J. B. Smathers 165

Personnel Protection Challenges in Defense and Waste Management Programs
L. G. Faust, T. J. McLaughlin and C. M. Stroud 169

● *RESOURCES OF THE FUTURE—L. S. Taylor, Chairman*

The New Decade in External Dosimetry
R. V. Griffith 177

The Future of Radiological Instrumentation
A. C. Lucas 191

Improving Health Physics Measurements by Performance Testing
K. L. Swinth, P. L. Roberson and J. A. MacLellan 197

Measurement Quality Assurance
E. H. Eisenhower 207

Robotics and Teleoperator-controlled Devices
H. B. Meieran 215

Education and Training in Health Physics—A Look to the Future
K. L. Mossman and J. W. Poston 223

● *FUTURE DEVELOPMENT OF BIOPHYSICAL UNDERSTANDING—W. C. Roesch, Chairman*

Spatial and Temporal Distribution of Energy
D. T. Goodhead 231

Quality Factors
G. D. Kerr 241

Microdosimetric Basis for Exposure Limits
L. W. Brackenbush and L. A. Braby 251

The Biophysical Stage of Radiation Carcinogenesis
H. H. Rossi and M. Zaider 257

● *FUTURE DEVELOPMENT OF BIOLOGICAL UNDERSTANDING—J. W. Thiessen, Chairman*

Implications of New Technologies and Shifting Priorities on the Understanding of Genetic Injury
D. Grahn 267

New Understanding from Epidemiology—The Next 25 Years
C. E. Land 269

Prospects for New Information Relevant to Radiation Protection from Studies of Experimental Animals
R. O. McClellan 279

Intrauterine Radiation Exposures and Mental Retardation
R. W. Miller 295

Ataxia-telangiectasia as a Model System for Studies of Radiation Protection Mechanisms
R. B. Painter 299

Future Development of Biological Understanding of Radiation Protection: Implications of Nonstochastic Effects
F. F. Hahn, R. O. McClellan, B. B. Boecker and B. A. Muggenburg 303

Implications of Human Tissue Studies for Radiation Protection
R. L. Kathren 315

Present and Future Applications of New Biotechnology to Problems of Radiation Damage and Repair
N. L. Oleinick 321

● *FUTURE DEVELOPMENT OF ENVIRONMENTAL UNDERSTANDING—R. F. Foster, Chairman*

Modeling the Outdoor Environment—New Perspectives and Challenges
J. E. Till 331

On the Relationship between Radiation Standards for the General Public and Limitation of Lifetime Risk
D. C. Kocher, K. F. Eckerman and R. W. Leggett 339

● *SOCIOECONOMIC PERCEPTIONS OF THE FUTURE—E. E. Pochin, Chairman*

Industrial Risk Perceptions
E. E. Pochin 351

A Consumer and Media Viewpoint
S. Heinz 357

Health and Low-level Radiation Turning Good News into Bad News
B. Wolfe and L. R. Wallis 361

Radiation Protection in the Future: An Insurer's Viewpoint
J. L. Forbes 367

The Probability of Causation Approach
D. E. Jose 371

The Impact of the Probability of Causation on the Radiation Protection Program
C. B. Meinhold 375

The Future of the *de minimis* Concept
J. P. Davis 379

● *REGULATORY PERCEPTIONS OF THE FUTURE—W. K. Sinclair, Chairman*

Regulatory Perceptions of the Future: A View from the United States
E. J. Vallario 385

A View from Europe: Stability, Consistency or Pragmatism
H. J. Dunster 391

● *POSTER PRESENTATIONS—R. G. Thomas, Chairman*

The Probability that a Specific Cancer and a Specified Radiation Exposure Are Causally Related
B. D. Breitenstein 397

Skin Carcinogenesis Following Uniform and Nonuniform β Irradiation
M. W. Charles, J. P. Williams and J. E. Coggle 399

Implications of Dose Distribution on Monitoring Requirements in U Mines and Mills
P. Duport, H. Stocker and E. Dalkowski 407

Impact on Radiogenic Cancer Risk of Persons Exhibiting Abnormal Sensitivity to Ionizing Radiation
N. E. Gentner, D. P. Morrison and D. K. Myers 415

Application of the ICRP Recommendations to Revised Secondary Radiation Protection Standards
W. E. Kennedy and J. P. Corley 427

Metallothionein Induction: A Measure of Radioprotective Action
J. Matsubara 433

Stochastic and Nonstochastic Concepts: Is Revision Needed?
C. W. Mays 437

Examination of the Uncertainty in Air Concentration Predictions Using Hanford Field Data
C. W. Miller, D. E. Fields and S. J. Cotter 443

Plutonium Mining for Cleanup
E. T. Bramlitt 451

Lung Tumor Response to Inhaled Pu and Its Implications for Radiation Protection
C. L. Sanders, K. E. McDonald and J. A. Mahaffey 455

A Radiation Protection Approach to Assessing Population Risk for Threshold-type Radiobiological Effects
B. R. Scott 463

The Risk of Leukemia in Seascale from Radiation Exposure
J. W. Stather, J. Dionian, J. Brown, T. P. Fell and C. R. Muirhead 471

The Legacy of Life-span Dog Studies
R. C. Thompson 483

Radiation Exposure of Fertile Women in Medical Research Studies
R. J. Vetter 487

● *NEWS AND NOTICES* 493

● *HEALTH PHYSICS SOCIETY PROSPECTUS* 501

● *HEALTH PHYSICS SOCIETY AFFILIATE MEMBERS* 503

● *INSTRUCTIONS TO CONTRIBUTORS* 505

● *SOFTWARE SURVEY SECTION* I

● *ADVERTISER INDEX* Appears in the back of this issue

NUMBER 3 SEPTEMBER

● *EDITORIAL*

***Health Physics* in Transition**
Richard J. Vetter 507

● *OBITUARY*

Ole Godfred Landsverk (1901–1987)
Citation by Don Collins and David Landsverk 509

● *PAPERS*

Results of a Thyroid Monitoring Survey Carried Out on Workers Exposed to ^{125}I in São Paulo, Brazil
Paolo Bartolini, Maria Teresa C. P. Ribela and Emerson A. Araujo 511

Plutonium, Am, Cm and Sr in Ducks Maintained on Radioactive Leaching Ponds in Southeastern Idaho
O. Doyle Markham, Douglas K. Halford, Susan K. Rope and George B. Kuzo 517

Relationship of ^{220}Rn and ^{222}Rn Progeny Levels in Canadian Underground U Mines
J. Bigu 525

Estimates of Radiation Dose and Health Risks to the United States Population Following the Chernobyl Nuclear Plant Accident
Jon A. Broadway, J. Michael Smith, David L. Norwood and Charles R. Porter 533

A Pathway Analysis Approach for Determining Acceptable Levels of Contamination of Radionuclides in Soil
John E. Till and Robert E. Moore 541

Neutron Personnel Dosimetry Intercomparison Studies at the Oak Ridge National Laboratory: A Summary (1981–1986)
R. E. Swaja and C. S. Sims 549

● *NOTES*

Measuring Rn Progeny by the Three-interval Counting Method: The Influence of ^{220}Rn Progeny
Luis S. Quindos, George J. Newton, Yung-Sung Cheng and Hsu-Chi Yeh 565

Radionuclides of U, Th, Po and Pb in Residents of Central Ohio and Coal Miners of West Virginia
Gareth E. Gilbert, C. T. Bishop, V. R. Casella and Agusto G. Aguirre 571

Dependence of the ^{137}Cs Soil-to-plant Transfer Factor on Soil Parameters
P. Schuller, J. Handl and R. E. Trumper 575

● *CORRESPONDENCE*

Comments on 'Alternatives to the BEIR Relative Risk Model for Explaining Atomic Bomb Survivor Cancer Mortality' by B. L. Cohen
K. S. V. Nambi and S. D. Soman 579

Reply to Nambi and Soman Regarding Alternatives to the BEIR Relative Risk Model
Bernard L. Cohen 579

A Proposal Concerning "the New Dosimetry"
John W. Gofman 580

Reply to Comments on Estimates of External γ Exposure by Neel and Rowland
Lynn R. Anspaugh and Bruce W. Church 581

● *NEWS AND NOTICES* 583

● *HEALTH PHYSICS SOCIETY PROSPECTUS* 591

● *HEALTH PHYSICS SOCIETY AFFILIATE MEMBERS* 593

● *INSTRUCTIONS TO CONTRIBUTORS* 595

● *NEW PATENTS* I

● *SOFTWARE SURVEY SECTION* III
GRAPHIT: CURVE FITTING AND GRAPHICS DISPLAY SYSTEM
NUCLIDE: NUCLIDE CALIBRATION SOURCE DECAY LIBRARY AND REPORT PROGRAM
GIPS
PIPEFLOW

● *ADVERTISER INDEX* Appears in the back of this issue

NUMBER 4 OCTOBER

● *PRESIDENT'S MESSAGE—1988*

An Additional Role for the Health Physics Society
Robert E. Alexander 597

● *PREFACE TO THE HELEN Q. WOODARD SYMPOSIUM*

The Helen Q. Woodard Symposium on Radiation Carcinogenesis and Associated Dosimetry
John S. Laughlin 601

● *HELEN Q. WOODARD SYMPOSIUM*

Evolving Perspectives on the Concept of Dose in Radiobiology and Radiation Protection
Arthur C. Upton 605

Radiation-induced Malignant Tumors of Bone in Patients with Hodgkin's Disease
Helen Q. Woodard, Andrew G. Huvos and Julius Smith 615

Carcinogenesis—A Synopsis of Human Experience with External Exposure in Medicine
John D. Boice, Jr. 621

Postradiation Sarcomas of Bone
Andrew G. Huvos and Helen Q. Woodard 631

Alpha-particle-induced Cancer in Humans
Charles W. Mays 637

The Effects of Adult Human Tissue Composition on the Dosimetry of Photons and Electrons
D. R. White and H. Q. Woodard 653

Interaction of α Particles with Bronchial Cells
Naomi H. Harley 665

● *PAPERS*

Radiation Doses from Medical *in-vivo* Prompt γ-ray Activation Using a Mobile Nuclear Reactor
Chien Chung, Chih-Ping Chen and Pao-Shu Chang 671

A Biokinetic Model for Rb in Humans
R. W. Leggett and L. R. Williams 685

● *CORRESPONDENCE*

Age Distribution of Exposed Populations
John H. Harley 703

● *NEWS AND NOTICES* 705

● *HEALTH PHYSICS SOCIETY PROSPECTUS* 713

● *HEALTH PHYSICS SOCIETY AFFILIATE MEMBERS* 715

● *INSTRUCTIONS TO CONTRIBUTORS* 717

● *NEW PATENTS* I

● *SOFTWARE SURVEY SECTION* III

● *ADVERTISER INDEX* Appears in the back of this issue

NUMBER 5 NOVEMBER

● *PAPERS*

A Small, Multi-element Fingertip Dosimeter for β Radiation
Nelson W. Couch, James E. Watson, Jr. and Philip E. Hamrick 719

Beta-gamma Point Source on the Skin Problem—Activity Estimation and Dose Analysis
G. E. Chabot and K. W. Skrable 729

Calculations for β Dosimetry Using Monte Carlo Code (OREC) for Electron Transport in Water
J. E. Turner, R. N. Hamm, M. L. Souleyrette, D. E. Martz, T. A. Rhea and D. W. Schmidt 741

Concentration Factors Used in the Assessment of Radiation Dose to Consumers of Fish: A Review of 27 Radionuclides
Ted M. Poston and Don C. Klopfer 751

Computer Simulations of Nuclear Reactions Induced by Incident Protons in the Energy Range of 100 to 500 MeV in a Human Body
Y. Asano, H. Kariya and S. Mori 767

Monitoring of ^{131}I in Milk and Rain Water in Japan following the Reactor Accident at Chernobyl and Estimates of Human Thyroidal Dose Equivalents
Kuhnihide Nishizawa, Kenzo Takata, Nobuyoshi Hamada, Yoshimune Ogata, Sadao Kojima and Kazuhito Takeshima 773

Deposition Velocity of Gaseous I to Rice Grains
Shigeo Uchida, Misako Sumiya, Yasuyuki Muramatsu, Yoichiro Ohmomo, Shuho Yamaguchi, Hitoshi Obata and Masanao Umebayashi 779

The Environmental Behavior of ^{131}I in Northwestern Greece following the Nuclear Reactor Accident at Chernobyl
P. A. Assimakopoulos, K. G. Ioannides and A. A. Pakou 783

Three-dimensional Treatment of Steady-state ^{222}Rn Diffusion in Building Materials: Introducing a Practical Modified One-dimensional Approach
P. Berkvens, E. Kerkhove and H. Vanmarcke 793

● *NOTES*

A Comparison of the Variability of Different Techniques and Sampling Periods for Measuring ^{222}Rn and Its Decay Products
Melinda Ronca-Battista and Paul Magno 801

Cesium-137 and ^{131}I in Thyroids of Cattle and Sheep After Nuclear Accidents and Weapons Tests
L. Van Middlesworth and U. Loos 809

On Inclusion of the Dose to Skin in the Effective Dose Equivalent
D. C. Kocher and K. F. Echerman 813

● *CORRESPONDENCE*

High Energy Nucleon Data Bases
John W. Wilson, S. Y. Chun, W. W. Buck and L. W. Townsend 817

Comments on 'A Proposal for a Generally Applicable *De Minimis* Dose'
A. Murray and J. E. Cook 819

Reply to Murray and Cook Regarding 'A Proposal for a Generally Applicable *de Minimis* Dose'
David C. Kocher 820

Cigarettes, Rn, Cancer and Health Physics
Richard J. Hickey 821

Reply to 'Cigarettes, Rn, Cancer and Health Physics' by R. J. Hickey
Ted B. Martonen and Werner Hofmann 823

Cancer, Population Density and Environmental Radiation in India
Victor E. Archer 823

Cancer, Population Density and Environmental Radiation in India—Reply to Archer's Comments
K. S. V. Nambi and S. D. Soman 826

● *BOOK REVIEW*

***Ionizing Radiation Exposure of the Population of the United States:* Report Number 93 of the National Council on Radiation Protection and Measurements**
Reviewed by Max L. Baker 829

● *NEWS AND NOTICES* 831

● *HEALTH PHYSICS SOCIETY PROSPECTUS* 839

● *HEALTH PHYSICS SOCIETY AFFILIATE MEMBERS* 841

● *INSTRUCTIONS TO CONTRIBUTORS* 843

● *SOFTWARE SURVEY SECTION* I

● *ADVERTISER INDEX* Appears in the back of this issue

NUMBER 6 DECEMBER

● *SPECIAL SUBMISSION*

Environmental Radioactivity and Man—The 1988 Sievert Lecture
Wolfgang Jacobi 845

● *PAPERS*

Feeding Green-Cut Forage Contaminated by Radioactive Fallout to Dairy Cows
Jan Bertilsson, Inger Andersson and Karl J. Johanson 855

Radiocesium Concentration in Migratory Birds Wintering in Spain After the Chernobyl Accident
A. Baeza, M. del Rio, C. Miró, J. M. Paniagua, A. Moreno and E. Navarro 863

Radionuclide Transport from Soil to Air, Native Vegetation, Kangaroo Rats and Grazing Cattle on the Nevada Test Site
R. O. Gilbert, J. H. Shinn, E. H. Essington, T. Tamura, E. M. Romney, K. S. Moor and T. P. O'Farrell 869

Radon Progeny as Sources of Gross-α Radioactivity Anomalies in Ground Water
C. R. Oural, S. B. Upchurch and H. R. Brooker 889

A Comparative Study on Different Methods of Measuring Rn Concentrations in Homes
Christer Svensson, Göran Pershagen and Zdenek Hrubec 895

Plant/Soil Concentration Ratios of ^{226}Ra for Contrasting Sites Around an Active U Mine-Mill
Shawki A. Ibrahim and F. Ward Whicker 903

Biokinetics and Dosimetry of Inhaled Cm Aerosols in Beagles: Effect of Aerosol Chemical Form
R. A. Guilmette and G. M. Kanapilly 911

Determination of U in Human Tissues By Delayed Neutron Activation Analysis
Edward R. Gonzales, Ernest S. Gladney, Howard A. Boyd, James F. McInroy, Marcia Muller and Phillip D. Palmer 927

Intake Retention Functions and Their Applications to Bioassay and the Estimation of Internal Radiation Doses
K. W. Skrable, G. E. Chabot, C. S. French and T. R. La Bone 933

Sugar as an Emergency Populace Dosimeter for Radiation Accidents
Toshiyuki Nakajima 951

Protective Action Guide for Radioactive Material Transportation Accidents
Brian Dodd and Larry L. Humphries 957

Hazards Assessment of Worst Case Transportation Accidents Involving Typical Radioactive Material Shipments
Brian Dodd and Larry L. Humphries 963

● *NOTES*

Cesium-137 in Soils From Chernobyl Fallout
C. Papastefanou, M. Manolopoulou and S. Charalambous 985

System for Measurement of ^{222}Rn at Low Levels in Natural Waters
G. G. Mathieu, P. E. Biscaye, R. A. Lupton and D. E. Hammond 989

Probabilistic Performance Assessment for Radioactive Waste Disposal: A Simplified Biosphere Model
J. Marivoet and C. Van Bosstraeten 993

Radiation Safety in Commercial Air Traffic: A Need for Further Study
John W. Wilson and Lawrence W. Townsend 1001

● *CORRESPONDENCE*

Entry by Pressure-driven Flow or Molecular Diffusion? A Reassessment of ^{222}Rn Concentrations Measured in an Energy-Efficient House
William W. Nazaroff 1005

Reply to "Entry by Pressure-driven Flow or Molecular Diffusion?"
R. F. Holub and T. B. Borak 1009

Computing Remainder Dose Equivalent for H_E
W. Huda and G. A. Sandison 1011

Reply to "Standard for Expression of Powers of 10"
Abraham S. Goldin 1014

● *BOOK REVIEWS*

Alvarez—Adventures of a Physicist **by Luis W. Alvarez**
Reviewed by Ralph H. Thomas 1015

Stemming the Tide—Arms Control in the Johnson Years **by Glenn T. Seaborg (with Benjamin S. Loeb)**
Reviewed by Ralph H. Thomas 1016

Chernobyl: Health Hazards from Radiocaesium, **Volume 24 in the Environmental Health Series**
Reviewed by Anthony R. Benedetto 1016

Well, It's Not My Fault: About the San Andreas Fault and Other Things **by John Lenihan**
Reviewed by William R. Hendee 1017

Radiation Protection of Workers (Ionising Radiations) **by the International Labour Organization**
Reviewed by Robert Stanton 1017

Indoor Radon And Its Hazards **by David Bodansky, Maurice A. Robkin and David R. Stadler, eds.**
Reviewed by Anthony R. Benedetto 1017

● *IRPA ABSTRACTS*

20th Annual Congress of the Fachverband Fuer Strahlenschutz: Waste Management 1019

- *NEWS AND NOTICES* 1021
- *HEALTH PHYSICS SOCIETY PROSPECTUS* 1029
- *HEALTH PHYSICS SOCIETY AFFILIATE MEMBERS* 1031
- *INSTRUCTIONS TO CONTRIBUTORS* 1033
- *LIST OF 1987–1988 JOURNAL REVIEWERS* I
- *LIST OF CONTENTS FOR VOL. 55* III
- *AUTHOR INDEX FOR VOL. 55* XVIII
- *SUBJECT INDEX FOR VOL. 55* XX
- *SOFTWARE SURVEY SECTION* XLI
- *ADVERTISER INDEX* Appears in the back of this issue

AUTHOR INDEX

ADAMS, W. C., 71
AGUIRRE, A. G., 571
ALEXANDER, R. E., 597
ALMOND, P. R., 91
ANDERSSON, I., 855
ANSPAUGH, L. R., 581
ARAUJO, E. A., 511
ARCHER, V. E., 823
ASANO, Y., 767
ASSIMAKOPOULOS, P. A., 783

BAEZA, A., 863
BAIR, W. J., 123
BAKER, M. L., 829
BARRAGAN, F., 81
BARTOLINI, P., 511
BENEDETTO, A. R., 1016, 1017
BERKVENS, P., 793
BERTILSSON, J., 855
BIGU, J., 525
BISCAYE, P. E., 989
BISHOP, C. T., 571
BOECKER, B. B., 303
BOICE, JR., J. D., 621
BORAK, T. B., 1009
BOWLING, J. W., 51
BOYD, H. A., 927
BRABY, L. A., 251
BRACKENBUSH, L. W., 251
BRAMLITT, E. T., 451
BREITENSTEIN, B. D., 397
BROADWAY, J. A., 533
BROOKER, H. R., 889
BROWN, J., 471
BUCK, W. W., 817

CASELLA, V. R., 571
CHABOT, G. E., 729, 933
CHARALAMBOUS, S., 985
CHARLES, M. W., 399
CHEN, C.-P., 671
CHENG, Y.-S., 565
CHU, R. Y. L., 95
CHUN, S. Y., 817
CHUNG, C., 671
CHURCH, B. W., 581
CIRAVOLO, T. G., 51
CLOUTIER, N. R., 31
CLULOW, F. V., 31
COGGLE, J. E., 399
COHEN, B. L., 579
COHEN, N., 59
COLLINS, D., 509
COOK, J. E., 819
CORLEY, J. P., 427
COTTER, S. J., 443
COUCH, N. W., 719

DALKOWSKI, E., 407
DAVÉ, N. K., 31
DAVIS, J. P., 379
DEL RIO, M., 863
DIONIAN, J., 471
DODD, B., 957, 963
DUNNING, G. M., 96
DUNSTER, H. J., 391
DUPORT, P., 407

ECKERMAN, K. F., 339, 813
EISENHOWER, E. H., 207
ESSINGTON, E. H., 869

FAUST, L. G., 169
FELL, T. P., 471
FIELDS, D. E., 443
FONG, S. W., 71
FORBES, J. L., 367
FRENCH, C. S., 933
FRY, R. J. M., 159

GENTNER, N. E., 415
GILBERT, G. E., 571
GILBERT, R. O., 869
GLADNEY, E. S., 927
GOFMAN, J. W., 580
GOLDIN, A. S., 1014
GONZALES, E. R., 927
GOODHEAD, D. T., 231
GRAHN, D., 267
GRIFFITH, R. V., 177
GUILMETTE, R. A., 911

HAHN, F. F., 303
HALFORD, D. K., 517
HAMADA, N., 773
HAMM, R. N., 741
HAMMOND, D. E., 989
HAMRICK, P. E., 719
HANDL, J., 575
HARLEY, J. H., 703
HARLEY, N. H., 665
HEALY, J. W., 125
HEINZ, S., 357
HELFER, I. K., 15
HENDEE, W. R., 97, 1017
HICKEY, R. J., 821
HICKMAN, D. P., 59
HOFMANN, W., 823
HOLUB, R. F., 1009
HORTON, JR., J., 91
HRUBEC, Z., 895
HUDA, W., 1011
HUMPHRIES, L. L., 957, 963
HURST, W. J., 9
HUVOS, A. G., 615, 631

IBRAHIM, S. A., 903
IOANNIDES, K. G., 783

JACOB, P., 37
JACOBI, W., 845
JAIN, V. K., 77
JOHANSON, K. J., 855
JOSE, D. E., 371

KANAPILLY, G. M., 911
KARIYA, H., 767
KATHREN, R. L., 315
KENNEDY, W. E., 427
KERKHOVE, E., 793
KERR, G. D., 241
KLOPFER, D. C., 751
KOCHER, D. C., 339, 813, 820
KOJIMA, S., 773
KUZO, G. B., 517

LA BONE, T. R., 933
LAND, C. E., 269
LANDSVERK, D., 509
LANG, C. M., 9
LAUGHLIN, J. S., 601
LEGGETT, R. W., 339, 685
LIM, T. P., 31
LINDELL, B., 145
LOOS, U., 809
LUCAS, A. C., 191
LUPTON, R. A., 989

MACLELLAN, J. A., 197
MAGNO, P., 67, 801
MAHAFFEY, J. A., 445
MANOLOPOULOU, M., 985
MARIVOET, J., 993
MARKHAM, O. D., 517
MARTONEN, T. B., 823
MARTZ, D. E., 741
MATHIEU, G. G., 989
MATSUBARA, J., 433
MAYS, C. W., 437, 637
MCCLELLAN, R. O., 279, 303
MCDONALD, K. E., 445
MCINROY, J. F., 927
MCLAUGHLIN, T. J., 169
MEIERAN, H. B., 215
MEINHOLD, C. B., 375
MILLER, C. W., 443
MILLER, K. L., 9
MILLER, K. M., 15
MILLER, R. W., 295
MIRÓ, C., 863
MOODY, K. D., 9
MOOR, K. S., 869
MOORE, R. E., 541

MORENO, A., 863
MORI, S., 767
MORRISON, D. P., 415
MOSSMAN, K. L., 223
MUGGENBURG, B. A., 303
MUIRHEAD, C. R., 471
MULLER, M., 927
MURAMATSU, Y., 779
MURRAY, A., 819
MYERS, D. K., 415

NACHTWEY, D. S., 159
NAKAJIMA, T., 951
NAMBI, K. S. V., 579, 826
NAVARRO, E., 863
NAZAROFF, W. W., 1005
NEWMAN, H. J., 71
NEWTON, G. J., 565
NISHIZAWA, K., 773
NORWOOD, D. L., 533
NYBERG, P. C., 67

O'FARRELL, T. P., 869
OGATA, Y., 773
OHMOMO, Y., 779
OLEINICK, N. L., 321
OURAL, C. R., 889

PAINTER, R. B., 299
PAKOU, A. A., 783
PALMER, P. D., 927
PANIAGUA, J. M., 863
PAPASTEFANOU, C., 985
PARETZKE, H. G., 37, 139
PERSHAGEN, G., 895
PINDER III, J. E., 51
POCHIN, E. E., 351
PORTER, C. R., 533
POSTON, J. W., 223
POSTON, T. M., 751
PRADO, K. L., 81
PUROHIT, R. G., 77

QUINDOS, L. S., 565

RAKOWSKI, J. T., 81
RHEA, T. A., 741
RIBELA, M. T. C. P., 511
ROBERSON, P. L., 197
ROMNEY, E. M., 869
RONCA-BATTISTA, M., 67, 801
ROPE, S. K., 517
ROSENBAUM, H., 37
ROSSI, H. H., 257

SANDERS, C. L., 445
SANDISON, G. A., 1011
SCHMIDT, D. W., 741
SCHREINER, W., 85
SCHULLER, P., 575
SCOTT, B. R., 463
SHINN, J. H., 869
SIMS, C. S., 549
SINCLAIR, W. K., 149
SKRABLE, K. W., 729, 933
SMATHERS, J. B., 165
SMITH, J. M., 533
SMITH, J., 615
SOMAN, S. D., 579, 826
SOULEYRETTE, M. L., 741
STANTON, R., 1017
STATHER, J. W., 471
STOCKER, H., 407
STROUD, C. M., 169
SUBBARATNAM, T., 77
SUMIYA, M., 779
SVENSSON, C., 895
SWAJA, R. E., 549
SWINTH, K. L., 197

TAKATA, K., 773
TAKESHIMA, K., 773
TAMURA, T., 869
TAYLOR, L. S., 133
THOMAS, R. H., 1015, 1016
THOMPSON, R. C., 483
TILL, J. E., 331, 541
TOWNSEND, L. W., 817, 1001
TRUMPER, R. E., 575
TURNER, J. E., 741

UCHIDA, S., 779
UPCHURCH, S. B., 889
UPTON, A. C., 605

VALLARIO, E. J., 385
VAN BOSSTRAETEN, C., 993
VAN MIDDLESWORTH, L., 809
VANEK, K. N., 81
VANMARCKE, H., 793
VETTER, R. J., 487, 507

WALLIS, L. R., 361
WATSON, JR., J. E., 71, 719
WHICKER, F. W., 903
WHITE, D. R., 653
WHITE, W. J., 9
WILLIAMS, J. P., 399
WILLIAMS, L. R., 685
WILSON, J. W., 817, 1001
WOLFE, B., 361
WOODARD, H. Q., 615, 631, 653

XIE, Y., 71

YEH, H.-C., 565

ZAIDER, M., 257

ACCIDENT ANALYSIS
Sugar as an emergency populace dosimeter for radiation accidents 951
ACCIDENTS, REACTOR
The environmental behavior of ^{131}I in northwestern Greece following the nuclear reactor accident at Chernobyl 783
Cesium-137 in soils from Chernobyl fallout 985
Chernobyl: Health Hazards from Radiocaesium, volume 24 in the Environmental Health Series, World Health Organization, Regional Office for Europe, Copenhagen, 1987, 42 pp. (paperback) (book review) 1016
Radiocesium concentration in migratory birds wintering in Spain after the Chernobyl accident 863
The impact of the Chernobyl accident on radiation protection 139
ACCIDENTS, TRANSPORT
Hazards assessment of worst-case transportation accidents involving typical radioactive material shipments 963
Protective action guide for radioactive material transportation accidents 957
ACTINIDES
Implications of human tissue studies for radiation protection 315
ALARA
The future of radiological instrumentation 191
AMERICIUM
Plutonium, Am, Cm and Sr in ducks maintained on radioactive leaching ponds in southeastern Idaho 517
Reconstruction of a human skull calibration phantom using bone sections from an ^{241}Am exposure case 59
AMERICIUM-241
Implications of human tissue studies for radiation protection 315
AS-LOW-AS-REASONABLY-ACHIEVABLE
The future of radiological instrumentation 191
ATAXIA-TELANGIECTASIA
Impact on radiogenic cancer risk of persons exhibiting abnormal sensitivity to ionizing radiation 415
ATOMIC BOMB SURVIVORS
A proposal concerning 'the new dosimetry' (letter to the editors) 580
Comments on 'Alternatives to the BEIR relative risk model for explaining atomic bomb survivor cancer mortality' by B.L. Cohen (letter to the editors) 579
ATTENUATION
Accuracy of dose calibrator linearity test (letter to the editors) 95
Attenuation characteristics of Lipowitz's metal for fast neutrons 91

BIOASSAY
Determination of U in human tissues by delayed neutron activation analysis 927
Improving health physics measurements by performance testing 197
Intake retention functions and their applications to bioassay and the estimation of internal radiation doses 933
Prospects for new information relevant to radiation protection from studies of experimental animals 279

BIOEFFECTS
Computer simulations of nuclear reactions induced by incident protons in the energy range from 100 to 500 MeV in a human body 767

BIOKINETICS
A biokinetic model for Rb in humans 685
Biokinetics and dosimetry of inhaled Cm aerosols in beagles: effect of aerosol chemical form 911

BONE
Postradiation sarcomas of bone 631

BONE, HUMAN
Radiation-induced malignant tumors of bone in patients with Hodgkin's disease 615
Future development of biological understanding of radiation protection: implications of nonstochastic effects 303

BOOK REVIEW
Alvarez--Adventures of a Physicist 1015
Well, It's Not My Fault: About the San Andrea Fault and Other Things 1017
Chernobyl: Health Hazards from Radiocaesium 1016
Indoor Rn and its Hazards 1017
Ionizing Radiation Exposure of the Population of the United States: Report Number 93 of the National Council on Radiation Protection and Measurements (book review) 829
Nuclear Medical Physics 97
Radiation Oncology Physics--1986 97
Radiation Protection of Workers (Ionising Radiations) 1017
Stemming the Tide--Arms Control in the Johnson Years (book review) 1016

BUILDING MATERIALS
Three-dimensional treatment of steady-state ^{222}Rn diffusion in building materials: introducing a practical modified one-dimensional approach 793

CALIBRATION
Accuracy of dose calibrator linearity test (letter to the editors) 95
Calibration factors for Ge detectors used for field spectrometry 15

CANADA
Uptake of ^{226}Ra by established vegetation and black cutworm larvae, Agrotis ipsilon (class insecta: order lepidoptera), on U mill tailings at Elliot Lake, Ontario, Canada 31

CANCER
Cancer, population density and environmental radiation in India - reply to Archer's comments (letter to the editors) 826
Cancer, population density and environmental radiation in India (letter to the editors) 823
Environmental radioactivity and man - the 1988 Sievert lecture 845
Impact on radiogenic cancer risk of persons exhibiting abnormal sensitivity to ionizing radiation 415
Prospects for new information relevant to radiation protection from studies of experimental animals 279
Radiation Oncology Physics--1986 (book review) 97
Reply to 'Cigarettes, Rn, cancer and health physics' by R.J. Hickey (letter to the editors) 823
The Helen Q. Woodard Symposium on Radiation Carcinogenesis and Associated Dosimetry 601
CARCINOGENESIS
Alpha-particle-induced cancer in humans 637
Carcinogenesis--a synopsis of human experience with external exposure in medicine 621
Cigarettes, Rn, cancer and health physics (letter to the editors) 821
Comments on 'Alternatives to the BEIR relative risk model for explaining atomic bomb survivor cancer mortality' by B.L. Cohen (letter to the editors) 579
Evolving perspectives on the concept of dose in radiobiology and radiation protection 605
Interaction of alpha particles with bronchial cells 665
Lung tumor response to inhaled Pu and its implications for radiation protection 455
New understanding from epidemiology--the next 25 years 269
Postradiation sarcomas of bone 631
Radiation-induced malignant tumors of bone in patients with Hodgkin's disease 615
Skin carcinogenesis following uniform and nonuniform beta irradiation 399
The biophysical stage of radiation carcinogenesis 257
The future of the de minimis concept 379
The probability that a specific cancer and a specified radiation exposure are causally related 397
CARCINOGENESIS, RADIATION
The Helen Q. Woodard Symposium on Radiation Carcinogenesis and Associated Dosimetry 601
Carcinogenesis--a synopsis of human experience with external exposure in medicine 621
CESIUM
Radiocesium concentration in migratory birds wintering in Spain after the Chernobyl accident 863
CESIUM-137
Cesium-137 and ^{131}I in thyroids of cattle and sheep after nuclear accidents and weapons tests 809
Dependence of the ^{137}Cs soil-to-plant transfer factor of soil parameters 575
Feeding green-cut forage contaminated by radioactive fallout to dairy cows 855

CHERNOBYL
Cesium-137 in soils from Chernobyl fallout 985
Chernobyl: Health Hazards from Radiocaesium, volume 24 in the Environmental Health Series, World Health Organization, Regional Office for Europe, Copenhagen, 1987, 42 pp. (paperback) (book review) 1016
Environmental radioactivity and man - the 1988 Sievert lecture 845
Estimates of radiation dose and health risks to the United States population following the Chernobyl nuclear plant accident 533
Feeding green-cut forage contaminated by radioactive fallout to dairy cows 855
Monitoring of ^{131}I in milk and rain water in Japan following the reactor accident at Chernobyl and estimates of human thyroidal dose equivalents 773
Radiocesium concentration in migratory birds wintering in Spain after the Chernobyl accident 863
Sugar as an emergency populace dosimeter for radiation accidents 951
The impact of the Chernobyl accident on radiation protection 139
The environmental behavior of ^{131}I in northwestern Greece following the nuclear reactor accident at Chernobyl 783

CIGARETTES
Cigarettes, Rn, cancer and health physics (letter to the editors) 821
Reply to 'Cigarettes, Rn, cancer and health physics' by R.J. Hickey (letter to the editors) 823

COBALT-60
Beta-gamma point source on the skin problem--activity estimation and dose analysis 729

COMMITTED DOSE EQUIVALENT
Committed dose equivalent for ^{3}H intakes from the urinary excretion data 77

COMPUTER SIMULATIONS
Computer simulations of nuclear reactions induced by incident protons in the energy range from 100 to 500 MeV in a human body 767

CONTAMINATION, ENVIRONMENTAL
A pathway analysis approach for determining acceptable levels of contamination of radionuclides in soil 541

CONVERSION
A simplified conversion of S values to individual patients 85

CURIUM
Biokinetics and dosimetry of inhaled Cm aerosols in beagles: effect of aerosol chemical form 911
Plutonium, Am, Cm and Sr in ducks maintained on radioactive leaching ponds in southeastern Idaho 517

DE MINIMIS
Reply to Murray and Cook regarding 'A proposal for a generally applicable de minimis dose' (letter to the editors) 820
The future of the de minimis concept 379

DECONTAMINATION
Plutonium mining for cleanup 451
Robotics and teleoperator-controlled devices 215

DETECTORS, RADIATION
Calibration factors for Ge detectors used for field spectrometry 15
The future of radiological instrumentation 191
DIFFUSION
Reply to "Entry by pressure-driven flow or molecular diffusion?" (letter to the editors) 1009
DNA CLONING
Present and future applications of new biotechnology to problems of radiation damage and repair 321
DNA SEQUENCING
Present and future applications of new biotechnology to problems of radiation damage and repair 321
DOGS
Biokinetics and dosimetry of inhaled Cm aerosols in beagles: effect of aerosol chemical form 911
The effects of topical povidone I solution on serum iodide levels and thyroid uptake of ^{131}I in dogs 9
The legacy of life-span dog studies 483
DOSE
Reply to Murray and Cook regarding 'A proposal for a generally applicable de minimis dose' (letter to the editors) 820
DOSE ANALYSIS
Beta-gamma point source on the skin problem--activity estimation and dose analysis 729
DOSE DISTRIBUTION
Age distribution of exposed populations (letter to the editors) 703
DOSE EQUIVALENT
Computing remainder dose equivalent for H_E (letter to the editors) 1012
DOSE EQUIVALENT
Microdosimetric basis for exposure limits 251
On inclusion of the dose to skin in the effective dose equivalent 813
Organ doses from radionuclides on the ground. Part II. Non-trivial time dependences 37
Quality factors 241
DOSE EQUIVALENT
Radiation doses from medical in-vivo prompt gamma-ray activation using mobile nuclear reactor 671
Radiation safety in commercial air traffic 1001
DOSE, DE MINIMIS
Comments on 'A proposal for a generally applicable de minimis dose' (letter to the editors) 819
DOSE, INTERNAL
Implications of human tissue studies for radiation protection 315
DOSE, INTERNAL RADIATION
Intake retention functions and their applications to bioassay and the estimation of internal radiation doses 933
DOSE, LOW
Health and low-level radiation turning good news into bad news 361

DOSE, ORGAN
Computing remainder dose equivalent for H_E (letter to the editors) 1012
Future development of biological understanding of radiation protection: implications of nonstochastic effects 303
DOSE, PATIENT
Breast radiation dose in film/screen mammography 81
DOSIMETRY
Accuracy of dose calibrator linearity test (letter to the editors) 95
Improving health physics measurements by performance testing 197
dosimetry
Measurement quality assurance 207
Ole Godfred Landsverk (1901-1987) 509
The effects of adult human tissue composition on the dosimetry of photons and electrons 653
DOSIMETRY, BETA
A small, multi-element fingertip dosimeter for beta radiation 719
Calculations for beta dosimetry using Monte Carlo code (OREC) for electron transport in water 741
DOSIMETRY, EXTERNAL
The new decade in external dosimetry 177
DOSIMETRY, GAMMA
Reply to comments on estimates of external gamma exposure by Neel and Rowland (letter to the editors) 581
DOSIMETRY, MICRO-DOSE
Spatial and temporal distribution of energy 231
DOSIMETRY, NEUTRON
Neutron personnel dosimetry intercomparison studies at the Oak Ridge National Laboratory: a summary (1981-1986) 549
DOSIMETRY, PERSONNEL
A small, multi-element fingertip dosimeter for beta radiation 719
Implications of dose distribution on monitoring requirements in U mines and mills 407
Neutron personnel dosimetry intercomparison studies at the Oak Ridge National Laboratory: a summary (1981-1986) 549
Sugar as an emergency populace dosimeter for radiation accidents 951
DOSIMETRY, THERMOLUMINESCENT
A small, multi-element fingertip dosimeter for beta radiation 719
EFFECTS, BIOLOGICAL
A radiation protection approach to assessing population risk for threshold-type radiobiological effects 463
Implications of new technologies and shifting priorities on the understanding of genetic injury 267
Intrauterine radiation exposures and mental retardation 295
Present and future applications of new biotechnology to problems of radiation damage and repair 321
The biophysical stage of radiation carcinogenesis 257
EMERGENCIES, RADIOLOGICAL
Robotics and teleoperator-controlled devices 215

EMERGENCY PLANNING
Hazards assessment of worst-case transportation accidents involving typical radioactive material shipments 963
Protective action guide for radioactive material transportation accidents 957
EMISSIONS, ATMOSPHERIC
Examination of the uncertainty in air concentration predictions using Hanford field data 443
EPIDEMIOLOGY
Age distribution of exposed populations (letter to the editors) 703
Cancer, population density and environmental radiation in India - reply to Archer's comments (letter to the editors) 826
Cancer, population density and environmental radiation in India (letter to the editors) 823
New understanding from epidemiology--the next 25 years 269
ERRATA
Corrections for: Mobile Pu in reservoir sediments of Nagasaki, Japan: Health Phys. 54:107-111; 1988. 99
EXCRETION, URINARY
Committed dose equivalent for ^{3}H intakes from the urinary excretion data 77
EXPONENTIALS
Reply to 'Standard for expression of powers of 10' (letter to the editors) 1014
EXPOSURE, EXTERNAL
Organ doses from radionuclides on the ground. Part II. Non-trivial time dependences 37
EXPOSURE, INTRAUTERINE
Radiation exposure of fertile women in medical research studies 487
Intrauterine radiation exposures and mental retardation 295
EXPOSURE, LOW-DOSE RADIATION
Intrauterine radiation exposures and mental retardation 295
EXPOSURE, OCCUPATIONAL
Implications of dose distribution on monitoring requirements in U mines and mills 407
Implications of human tissue studies for radiation protection 315
Radiation protection guidelines for space missions 159
Radiation Protection of Workers (Ionising Radiations), (book review) 1017
EXPOSURE, RADIATION
Reply to comments on estimates of external gamma exposure by Neel and Rowland (letter to the editors) 581
The new decade in external dosimetry 177
The probability that a specific cancer and a specified radiation exposure are causally related 397
The risk of leukemia in Seascale from radiation exposure 471
EXPOSURE, MEDICAL
Radiation doses from medical in-vivo prompt gamma-ray activation using mobile nuclear reactor 671

FALLOUT
Cesium-137 in soils from Chernobyl fallout 985
Comments on 'Decay rate of radiation from nuclear weapons fallout' (letter to the editors) 96
Corrections for: Mobile Pu in reservoir sediments of Nagasaki, Japan: Health Phys. 54:107-111; 1988. 99
Radiocesium concentration in migratory birds wintering in Spain after the Chernobyl accident 863
Reply to comments on estimates of external gamma exposure by Neel and Rowland (letter to the editors) 581
The impact of the Chernobyl accident on radiation protection 139
The interrelationships among plant biomass, plant surface area and the interception of particulate deposition by grasses 51

FLORIDA
Radon progeny as sources of gross-alpha radioactivity anomalies in ground water 889

FOOD CHAIN
Environmental radioactivity and man - the 1988 Sievert lecture 845
Feeding green-cut forage contaminated by radioactive fallout to dairy cows 855

GENES, CLONED REPAIR
Present and future applications of new biotechnology to problems of radiation damage and repair 321

GENETICS, RADIATION
Implications of new technologies and shifting priorities on the understanding of genetic injury 267

GREECE
The environmental behavior of ^{131}I in northwestern Greece following the nuclear reactor accident at Chernobyl 783

HEALTH EFFECTS
Cigarettes, Rn, cancer and health physics (letter to the editors) 821
Reply to 'Cigarettes, Rn, cancer and health physics' by R.J. Hickey (letter to the editors) 823

HEALTH PHYSICS SOCIETY
Education and training in health physics--a look to the future 223
Health Physics in transition 507
HPS President's message--1988, An additional role for the Health Physics Society 597
Ole Godfred Landsverk (1901-1987) 509

HIROSHIMA
Comments on 'Alternatives to the BEIR relative risk model for explaining atomic bomb survivor cancer mortality' by B.L. Cohen (letter to the editors) 579
Intrauterine radiation exposures and mental retardation 295
New understanding from epidemiology--the next 25 years 269

HODGKIN'S DISEASE
Radiation-induced malignant tumors of bone in patients with Hodgkin's disease 615

HUMANS
Alpha-particle-induced cancer in humans 637
Reconstruction of a human skull calibration phantom using bone sections from an ^{241}Am exposure case 59
Sugar as an emergency populace dosimeter for radiation accidents 951
The effects of adult human tissue composition on the dosimetry of photons and electrons 653
IDAHO
Plutonium, Am, Cm and Sr in ducks maintained on radioactive leaching ponds in southeastern Idaho 517
IMAGING
Breast radiation dose in film/screen mammography 81
IMAGING, DIAGNOSTIC
Uses of ionizing radiation and medical-care-related problems 165
INDIA
Cancer, population density and environmental radiation in India - reply to Archer's comments (letter to the editors) 826
Cancer, population density and environmental radiation in India (letter to the editors) 823
INHALATION
Biokinetics and dosimetry of inhaled Cm aerosols in beagles: effect of aerosol chemical form 911
Lung tumor response to inhaled Pu and its implications for radiation protection 455
Radionuclides of U, Th, Po and Pb in residents of central Ohio and coal miners of West Virginia 571
INSTRUMENTS
Improving health physics measurements by performance testing 197
Measurement quality assurance 207
INTAKE
Results of a thyroid monitoring survey carried out on workers exposed to ^{125}I in Sao Paulo, Brazil 511
INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION
Radiation protection--a look to the future: ICRP perceptions 145
INTERNATIONAL RADIATION PROTECTION ASSOCIATION
Abstracts from the 20th Annual Congress of the Fachverband Fuer Strahlenschutz: waste management, 6-9 October 1987, Basle, Switzerland 1019
IODINE
Deposition velocity of gaseous I to rice grains 779
IODINE, POVIDONE
The effects of topical povidone I solution on serum iodide levels and thyroid uptake of ^{131}I in dogs 9
IODINE-125
Results of a thyroid monitoring survey carried out on workers exposed to ^{125}I in Sao Paulo, Brazil 511

IODINE-131
Cesium-137 and ^{131}I in thyroids of cattle and sheep after nuclear accidents and weapons tests 809
Feeding green-cut forage contaminated by radioactive fallout to dairy cows, ^{131}I 855
Monitoring of ^{131}I in milk and rain water in Japan following the reactor accident at Chernobyl and estimates of human thyroidal dose equivalents 773
The effects of topical povidone I solution on serum iodide levels and thyroid uptake of ^{131}I in dogs 9
The environmental behavior of ^{131}I in northwestern Greece following the nuclear reactor accident at Chernobyl 783
LASERS
Personnel protection challenges in defense and waste management programs 169
LEUKEMIA
The risk of leukemia in Seascale from radiation exposure 471
LIVER
Future development of biological understanding of radiation protection: implications of nonstochastic effects 303
LIVER, HUMAN
Radionuclides of U, Th, Po and Pb in residents of central Ohio and coal miners of West Virginia 571
LIVER, RODENT
Metallothionein induction: a measure of radioprotective action 433
LOW RISK ANALYSIS
Spatial and temporal distribution of energy 231
LUNG
Future development of biological understanding of radiation protection: implications of nonstochastic effects 303
LUNGS, HUMAN
Radionuclides of U, Th, Po and Pb in residents of central Ohio and coal miners of West Virginia 571
MAGNETIC RESONANCE IMAGING
Uses of ionizing radiation and medical-care-related problems 165
MAMMOGRAPHY
Breast radiation dose in film/screen mammography 81
MEASUREMENT
A comparison of the variability of different techniques and sampling periods for measuring ^{222}Rn and its decay products 801
MICRODOSIMETRY
Evolving perspectives on the concept of dose in radiobiology and radiation protection 605
Microdosimetric basis for exposure limits 251
Spatial and temporal distribution of energy 231
MINING, COAL
Radionuclides of U, Th, Po and Pb in residents of central Ohio and coal miners of West Virginia 571

MINING, URANIUM
Accumulation of ^{226}Ra by native vegetation from active U mill tailings sites 903
Implications of dose distribution on monitoring requirements in U mines and mills 407
Relationship of ^{220}Rn and ^{222}Rn progeny levels in Canadian underground U mines 525
Uptake of ^{226}Ra by established vegetation and black cutworm larvae, Agrotis ipsilon (class insecta: order lepidoptera), on U mill tailings at Elliot Lake, Ontario, Canada 31
MODEL, RELATIVE RISK
Comments on 'Alternatives to the BEIR relative risk model for explaining atomic bomb survivor cancer mortality' by B.L. Cohen (letter to the editors) 579
Reply to Nambi and Soman regarding alternatives to the BEIR relative risk model (letter to the editors) 579
MODELING
Computer simulations of nuclear reactions induced by incident protons in the energy range from 100 to 500 MeV in a human body 767
MODELS
A biokinetic model for Rb in humans 685
Comments on 'Alternatives to the BEIR relative risk model for explaining atomic bomb survivor cancer mortality' by B.L. Cohen (letter to the editors) 579
Examination of the uncertainty in air concentration predictions using Hanford field data 443
Modeling the outdoor environment--new perspectives and challenges 331
Probabilistic performance assessment for radioactive waste disposal: a simplified biosphere model 993
MODELS, BIOKINETICS
Implications of human tissue studies for radiation protection 315
MONITORING, ENVIRONMENTAL
A comparative study on different methods of measuring Rn concentrations in homes 895
Monitoring of ^{131}I in milk and rain water in Japan following the reactor accident at Chernobyl and estimates of human thyroidal dose equivalents 773
MONITORS, RADIATION
A comparative study on different methods of measuring Rn concentrations in homes 895
Standard measurement techniques and strategies for indoor ^{222}Rn measurements 67
MONTE CARLO CODE
Calculations for beta dosimetry using Monte Carlo code (OREC) for electron transport in water 741
MUTAGENESIS
Implications of new technologies and shifting priorities on the understanding of genetic injury 267
MUTAGENESIS, RADIATION
Present and future applications of new biotechnology to problems of radiation damage and repair 321

NAGASAKI
Comments on 'Alternatives to the BEIR relative risk model for explaining atomic bomb survivor cancer mortality' by B.L. Cohen (letter to the editors) 579
Corrections for: Mobile Pu in reservoir sediments of Nagasaki, Japan: Health Phys. 54:107-111; 1988. 99
Intrauterine radiation exposures and mental retardation 295
New understanding from epidemiology--the next 25 years 269
NEUTRON ACTIVATION
Determination of U in human tissues by delayed neutron activation analysis 927
NEUTRONS
Attenuation characteristics of Lipowitz's metal for fast neutrons 91
Quality factors 241
Radiation safety in commercial air traffic 1001
NEVADA TEST SITE
Cesium-137 and ^{131}I in thyroids of cattle and sheep after nuclear accidents and weapons tests 809
Personnel protection challenges in defense and waste management programs 169
Radionuclide transport from soil to air, native vegetation, kangaroo rats and grazing cattle on the Nevada Test Site 869
NORTH CAROLINA
Survey of ^{222}Rn in North Carolina homes 71
NUCLEAR MEDICINE
Nuclear Medical Physics (book review) 97
Radiation Oncology Physics--1986 (book review) 97
The Helen Q. Woodard Symposium on Radiation Carcinogenesis and Associated Dosimetry 601
NUCLEAR WEAPONS
Comments on 'Decay rate of radiation from nuclear weapons fallout' (letter to the editors) 96
NUTRITION PATHWAY
Concentration factors used in the assessment of radiation dose to consumers of fish: a review of 27 radionuclides 751
A pathway analysis approach for determining acceptable levels of contamination of radionuclides in soil 541
OBITUARY
Ole Godfred Landsverk (1901-1987) 509
PHANTOMS
Organ doses from radionuclides on the ground. Part II. Non-trivial time dependences 37
Reconstruction of a human skull calibration phantom using bone sections from an ^{241}Am exposure case 59
PHOTONS
The effects of adult human tissue composition on the dosimetry of photons and electrons 653
Organ doses from radionuclides on the ground. Part II. Non-trivial time dependences 37

PLUTONIUM
Corrections for: Mobile Pu in reservoir sediments of Nagasaki, Japan: Health Phys. 54:107-111; 1988. 99
Lung tumor response to inhaled Pu and its implications for radiation protection 455
Personnel protection challenges in defense and waste management programs 169
Plutonium mining for cleanup 451
Plutonium, Am, Cm and Sr in ducks maintained on radioactive leaching ponds in southeastern Idaho 517
PLUTONIUM-238
Implications of human tissue studies for radiation protection 315
PREGNANCY
Radiation exposure of fertile women in medical research studies 487
PRESIDENT'S MESSAGE
HPS President's message--1988, An additional role for the Health Physics Society 597
PROBABILITY OF CAUSATION
The impact of the probability of causation on the radiation protection program 375
The probability of causation approach 371
The probability that a specific cancer and a specified radiation exposure are causally related 397
PROTONS
Computer simulations of nuclear reactions induced by incident protons in the energy range from 100 to 500 MeV in a human body 767
PUBLIC INFORMATION
A consumer and media viewpoint 357
Health and low-level radiation turning good news into bad news 361
Radiation protection in the future: an insurer's viewpoint 367
The impact of the Chernobyl accident on radiation protection 139
Will radiation control be by reason of regulation? 133
QUALITY ASSURANCE
Measurement quality assurance 207
QUALITY FACTOR
Microdosimetric basis for exposure limits 251
Quality factors 241
The new decade in external dosimetry 177
RADIATION DAMAGE
The legacy of life-span dog studies 483
RADIATION DOSE
A proposal concerning 'the new dosimetry' (letter to the editors) 580
Estimates of radiation dose and health risks to the United States population following the Chernobyl nuclear plant accident 533
RADIATION MONITORS
Measurement quality assurance 207
RADIATION PROTECTION
A consumer and media viewpoint 357
A view from Europe: stability, consistency or pragmatism 391
Ataxia-telangiectasia as a model system for studies of radiation protection mechanisms 299

Implications of human tissue studies for radiation protection 315
Introduction to the H.M. Parker Lecture 123
On the relationship between radiation standards for the general public and limitation of lifetime risk 339
Radiation protection standards: a historical perspective 125
Radiation protection--a look to the future: ICRP perceptions 145
Regulatory perceptions of the future: a view from the United States 385
The future of radiological instrumentation 191
The impact of the probability of causation on the radiation protection program 375
The new decade in external dosimetry 177
Trends in radiation protection--a view from the National Council on Radiation Protection and Measurements (NCRP) 149
Will radiation control be by reason of regulation? 133

RADIATION THERAPY

A simplified conversion of S values to individual patients 85
Attenuation characteristics of Lipowitz's metal for fast neutrons 91
Nuclear Medical Physics (book review) 97
Radiation Oncology Physics--1986 (book review) 97

RADIATION, ALPHA

Alpha-particle-induced cancer in humans 637
Interaction of alpha particles with bronchial cells 665
Radionuclides of U, Th, Po and Pb in residents of central Ohio and coal miners of West Virginia 571
Radon progeny as sources of gross-alpha radioactivity anomalies in ground water 889

RADIATION, ATMOSPHERIC

Radiation safety in commercial air traffic 1001

RADIATION, BACKGROUND

Cancer, population density and environmental radiation in India - reply to Archer's comments (letter to the editors) 826
Cancer, population density and environmental radiation in India (letter to the editors) 823

RADIATION, BETA

A small, multi-element fingertip dosimeter for beta radiation 719
Beta-gamma point source on the skin problem--activity estimation and dose analysis 729
Skin carcinogenesis following uniform and nonuniform beta irradiation 399

RADIATION, GAMMA

Radiation doses from medical in-vivo prompt gamma-ray activation using mobile nuclear reactor 671
Reply to comments on estimates of external gamma exposure by Neel and Rowland (letter to the editors) 581

RADIATION, IONIZING

A proposal concerning 'the new dosimetry' (letter to the editors) 580
Ionizing Radiation Exposure of the Population of the United States: Report Number 93 of the National Council on Radiation Protection and Measurements (book review) 829
Ole Godfred Landsverk (1901-1987) 509

RADIATION, MEDICAL
Breast radiation dose in film/screen mammography 81
Uses of ionizing radiation and medical-care-related problems 165
Radiation doses from medical in-vivo prompt gamma-ray activation using mobile nuclear reactor 671
RADIOACTIVITY, AIRBORNE
Examination of the uncertainty in air concentration predictions using Hanford field data 443
RADIOACTIVITY, ENVIRONMENTAL
Environmental radioactivity and man - the 1988 Sievert lecture 845
Examination of the uncertainty in air concentration predictions using Hanford field data 443
Modeling the outdoor environment--new perspectives and challenges 331
RADIOACTIVITY, REMOVAL OF
Plutonium mining for cleanup 451
Robotics and teleoperator-controlled devices 215
RADIOEPIDEMIOLOGY
The probability that a specific cancer and a specified radiation exposure are causally related 397
RADIUM
Accumulation of ^{226}Ra by native vegetation from active U mill tailings sites 903
RADIUM-226
Uptake of ^{226}Ra by established vegetation and black cutworm larvae, Agrotis ipsilon (class insecta: order lepidoptera), on U mill tailings at Elliot Lake, Ontario, Canada 31
RADON
Cigarettes, Rn, cancer and health physics (letter to the editors) 821
Environmental radioactivity and man - the 1988 Sievert lecture 845
Indoor Rn and its Hazards (book review) 1017
Reply to 'Cigarettes, Rn, cancer and health physics' by R.J. Hickey (letter to the editors) 823
RADON DAUGHTERS
A comparison of the variability of different techniques and sampling periods for measuring ^{222}Rn and its decay products 801
Measuring Rn progeny by the three-interval counting method: the influence of ^{220}Rn progeny 565
Radon progeny as sources of gross-alpha radioactivity anomalies in groundwater 889
Relationship of ^{220}Rn and ^{222}Rn progeny levels in Canadian underground U mines 525
Three-dimensional treatment of steady-state ^{222}Rn diffusion in building materials: introducing a practical modified one-dimensional approach 793
RADON, INDOOR
A comparative study on different methods of measuring Rn concentrations in homes 895
Entry by pressure-driven flow or molecular diffusion? A reassessment of ^{222}Rn concentrations measured in an energy-efficient house (letter to the editors) 1005
Indoor Rn and its Hazards (book review) 1017
Measuring Rn progeny by the three-interval counting method: the influence of ^{220}Rn progeny 565

Standard measurement techniques and strategies for indoor ^{222}Rn measurements 67
Survey of ^{222}Rn in North Carolina homes 71
Three-dimensional treatment of steady-state ^{222}Rn diffusion in building materials: introducing a practical modified one-dimensional approach 793

RADON-220

Measuring Rn progeny by the three-interval counting method: the influence of ^{220}Rn progeny 565
Relationship of ^{220}Rn and ^{222}Rn progeny levels in Canadian underground U mines 525

RADON-222

A comparative study on different methods of measuring Rn concentrations in homes 895
A comparison of the variability of different techniques and sampling periods for measuring ^{222}Rn and its decay products 801
Entry by pressure-driven flow or molecular diffusion? A reassessment of ^{222}Rn concentrations measured in an energy-efficient house (letter to the editors) 1005
Relationship of ^{220}Rn and ^{222}Rn progeny levels in Canadian underground U mines 525
Reply to "Entry by pressure-driven flow or molecular diffusion?" (letter to the editors) 1009
Standard measurement techniques and strategies for indoor ^{222}Rn measurements 67
Survey of ^{222}Rn in North Carolina homes 71
System for measurement of ^{222}Rn at low-levels in natural waters 989
Three-dimensional treatment of steady-state ^{222}Rn diffusion in building materials: introducing a practical modified one-dimensional approach 793

RECOMBINANT DNA

Present and future applications of new biotechnology to problems of radiation damage and repair 321

REFERENCE MAN

A simplified conversion of S values to individual patients 85

REGULATION

Radiation protection in the future: an insurer's viewpoint 367
Radiation Protection of Workers (Ionising Radiations) (book review) 1017

RESPIRATORY SYSTEM

Interaction of alpha particles with bronchial cells 665
Lung tumor response to inhaled Pu and its implications for radiation protection 455
Radionuclides of U, Th, Po and Pb in residents of central Ohio and coal miners of West Virginia 571

RISK ANALYSIS

A pathway analysis approach for determining acceptable levels of contamination of radionuclides in soil 541
A radiation protection approach to assessing population risk for threshold-type radiobiological effects 463
Age distribution of exposed populations (letter to the editors) 703
Estimates of radiation dose and health risks to the United States population following the Chernobyl nuclear plant accident 533

Impact on radiogenic cancer risk of persons exhibiting abnormal sensitivity to ionizing radiation 415
Industrial risk perceptions 351
Modeling the outdoor environment--new perspectives and challenges 331
New understanding from epidemiology--the next 25 years 269
On inclusion of the dose to skin in the effective dose equivalent 813
Personnel protection challenges in defense and waste management programs 169
Stochastic and nonstochastic concepts: is revision needed? 437
The future of the de minimis concept 379
The new decade in external dosimetry 177
The risk of leukemia in Seascale from radiation exposure 471

ROBOTICS
Robotics and teleoperator-controlled devices 215

RODENTS
Metallothionein induction: a measure of radioprotective action 433
Radionuclide transport from soil to air, native vegetation, kangaroo rats and grazing cattle on the Nevada Test Site 869
Skin carcinogenesis following uniform and nonuniform beta irradiation 399

RUBIDIUM
A biokinetic model for Rb in humans 685

SAFETY STANDARDS
A consumer and media viewpoint 357
A radiation protection approach to assessing population risk for threshold-type radiobiological effects 463
A view from Europe: stability, consistency or pragmatism 391
Application of the ICRP recommendations to revised secondary radiation protection standards 427
Future development of biological understanding of radiation protection: implications of nonstochastic effects 303
Implications of human tissue studies for radiation protection 315
Introduction to the H.M. Parker Lecture 123
Lung tumor response to inhaled Pu and its implications for radiation protection 455
Microdosimetric basis for exposure limits 251
On the relationship between radiation standards for the general public and limitation of lifetime risk 339
Radiation protection guidelines for space missions 159
Radiation protection in the future: an insurer's viewpoint 367
Radiation protection standards: a historical perspective 125
Regulatory perceptions of the future: a view from the United States 385
Stochastic and nonstochastic concepts: is revision needed? 437
The future of radiological instrumentation 191
The future of the de minimis concept 379
The impact of the Chernobyl accident on radiation protection 139
The impact of the probability of causation on the radiation protection program 375
Trends in radiation protection--a view from the National Council on Radiation Protection and Measurements (NCRP) 149
Will radiation control be by reason of regulation? 133

SAMPLING
Standard measurement techniques and strategies for indoor ^{222}Rn measurements 67
SHIELDING
Attenuation characteristics of Lipowitz's metal for fast neutrons 91
High-energy nucleon data bases (letter to the editors) 817
SKELETAL
Future development of biological understanding of radiation protection: implications of nonstochastic effects 303
Postradiation sarcomas of bone 631
Reconstruction of a human skull calibration phantom using bone sections from an ^{241}Am exposure case 59
SKIN
Beta-gamma point source on the skin problem--activity estimation and dose analysis 729
SOVIET UNION
Stemming the Tide--Arms Control in the Johnson Years (book review) 1016
SPECTROMETRY, FIELD
Calibration factors for Ge detectors used for field spectrometry 15
STRONTIUM
Plutonium, Am, Cm and Sr in ducks maintained on radioactive leaching ponds in southeastern Idaho 517
STUDIES, ANIMAL
Metallothionein induction: a measure of radioprotective action 433
Prospects for new information relevant to radiation protection from studies of experimental animals 279
The legacy of life-span dog studies 483
STUDIES, HUMAN
Prospects for new information relevant to radiation protection from studies of experimental animals 279
Radiation exposure of fertile women in medical research studies 487
SUGAR
Sugar as an emergency populace dosimeter for radiation accidents 951
TAILINGS
Accumulation of ^{226}Ra by native vegetation from active U mill tailings sites 903
TERATOGENESIS
Radiation exposure of fertile women in medical research studies 487
THYROID
Cesium-137 and ^{131}I in thyroids of cattle and sheep after nuclear accidents and weapons tests 809
Future development of biological understanding of radiation protection: implications of nonstochastic effects 303
Monitoring of ^{131}I in milk and rain water in Japan following the reactor accident at Chernobyl and estimates of human thyroidal dose equivalents 773
Results of a thyroid monitoring survey carried out on workers exposed to ^{125}I in Sao Paulo, Brazil 511
The effects of topical povidone I solution on serum iodide levels and thyroid uptake of ^{131}I in dogs 9

TOMOGRAPHY, COMPUTERIZED
Uses of ionizing radiation and medical-care-related problems 165
TOMOGRAPHY, POSITRON EMISSION
Uses of ionizing radiation and medical-care-related problems 165
TOMOGRAPHY, SINGLE-PHOTON EMISSION COMPUTERIZED
Uses of ionizing radiation and medical-care-related problems 165
TRAINING, HEALTH PHYSICS
Education and training in health physics--a look to the future 223
TRANSFER COEFFICIENT
A simplified conversion of S values to individual patients 85
Feeding green-cut forage contaminated by radioactive fallout to dairy cows 855
TRANSPORT, ATMOSPHERIC
The environmental behavior of ^{131}I in northwestern Greece following the nuclear reactor accident at Chernobyl 783
The interrelationships among plant biomass, plant surface area and the interception of particulate deposition by grasses 51
TRANSPORT, ELECTRON
Calculations for beta dosimetry using Monte Carlo code (OREC) for electron transport in water 741
TRANSPORT, ENVIRONMENTAL
Cesium-137 and ^{131}I in thyroids of cattle and sheep after nuclear accidents and weapons tests 809
Cesium-137 in soils from Chernobyl fallout 985
Concentration factors used in the assessment of radiation dose to consumers of fish: a review of 27 radionuclides 751
Dependence of the ^{137}Cs soil-to-plant transfer factor of soil parameters 575
Organ doses from radionuclides on the ground. Part II. Non-trivial time dependences 37
Plutonium, Am, Cm and Sr in ducks maintained on radioactive leaching ponds in southeastern Idaho 517
Radiocesium concentration in migratory birds wintering in Spain after the Chernobyl accident 863
Radionuclide transport from soil to air, native vegetation, kangaroo rats and grazing cattle on the Nevada Test Site 869
The environmental behavior of ^{131}I in northwestern Greece following the nuclear reactor accident at Chernobyl 783
The interrelationships among plant biomass, plant surface area and the interception of particulate deposition by grasses 51
The risk of leukemia in Seascale from radiation exposure 471
Uptake of ^{226}Ra by established vegetation and black cutworm larvae, Agrotic ipsilon (class insecta: order lepidoptera), on U mill tailings at Elliot Lake, Ontario, Canada 31
TRITIUM
Committed dose equivalent for ^{3}H intakes from the urinary excretion data 77
ULTRASOUND
Uses of ionizing radiation and medical-care-related problems 165
UNITED KINGDOM
The risk of leukemia in Seascale from radiation exposure 471
UNITED STATES
Estimates of radiation dose and health risks to the United States population following the Chernobyl nuclear plant accident 533

Ionizing Radiation Exposure of the Population of the United States: Report Number 93 of the National Council on Radiation Protection and Measurements (book review) 829
Stemming the Tide--Arms Control in the Johnson Years (book review) 1016

UPTAKE
The effects of topical povidone I solution on serum iodide levels and thyroid uptake of ^{131}I in dogs 9

UPTAKE, PLANT
Accumulation of ^{226}Ra by native vegetation from active U mill tailings sites 903

URANIUM
Accumulation of ^{226}Ra by native vegetation from active U mill tailings sites 903
Determination of U in human tissues by delayed neutron activation analysis 927
Implications of dose distribution on monitoring requirements in U mines and mills 407

WASTE DISPOSAL
Plutonium mining for cleanup 451
Plutonium, Am, Cm and Sr in ducks maintained on radioactive leaching ponds in southeastern Idaho 517
Probabilistic performance assessment for radioactive waste disposal: a simplified biosphere model 993
Uptake of ^{226}Ra by established vegetation and black cutworm larvae, Agrotis ipsilon (class insecta: order lepidoptera), on U mill tailings at Elliot Lake, Ontario, Canada 31

WASTE MANAGEMENT
A pathway analysis approach for determining acceptable levels of contamination of radionuclides in soil 541

WATER, ELECTRON TRANSPORT CODE
Calculations for beta dosimetry using Monte Carlo code (OREC) for electron transport in water 741

WATER, GROUND
Radon progeny as sources of gross-alpha radioactivity anomalies in ground water 889
System for measurement of ^{222}Rn at low-levels in natural waters 989

WATER, SURFACE
Corrections for: Mobile Pu in reservoir sediments of Nagasaki, Japan: Health Phys. 54:107-111; 1988. 99

WEAPONS
Personnel protection challenges in defense and waste management programs 169
Radionuclide transport from soil to air, native vegetation, kangaroo rats and grazing cattle on the Nevada Test Site 869

X RAYS
Breast radiation dose in film/screen mammography 81